

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A data processing system comprising: a CPU, a storage surface, a local probe storage array having a plurality of sensors for reading data from [[[a]]] the storage surface; a plurality of data processing elements mounted on the storage array and each connected to different sensor of the array for processing data read by said connected sensor, said storage surface comprising a plurality of data fields each data field corresponding to a different one of the sensors, each data field having a matrix of bit storage locations individually addressable by a corresponding sensor, and the storage surface comprising a user data portion dedicated to storage of user data for manipulation by the processing elements, and a program code portion dedicated to storage of program code for configuring the processing elements to manipulate the user data, said CPU mounted on said array and switchable between different functions, with each sensor connected to a corresponding point on the CPU via a direct local electrical connection, and a random access memory mounted on and connected to the CPU.

2 - 3. (Cancelled)

4. (Originally presented) A data processing system as claimed in claim 3, wherein the program code portion and the user data portion are located in different fields of the storage surface.

5. (Originally presented) A data processing system as claimed in claim 3, wherein each field of the storage surface has at least one bit location assigned to the program code portion and at least one bit location assigned to the user data portion.

6. (Originally presented) A data processing system as claimed in claim 3, wherein each field of the storage surface has different bit locations assigned to different memory pages.

7. (Originally presented) A data processing system as claimed in claim 1, further comprising a random access memory mounted on and connected to the data processing elements.

8. (Originally presented) A data processing system as claimed in claim 1, wherein the data processing elements comprise logic for comparing an input bit pattern with a bit pattern recorded on the storage surface.

9. (Cancelled)

10. (Currently Amended) A data processing method comprising: reading data from a storage surface via sensors of a local probe storage array; and processing the data read from the surface via a plurality of data processing elements and a CPU mounted on the storage array and each connected to a corresponding one of the sensors of the array said storage surface comprising a plurality of data fields each data field corresponding to a different one of the sensors, each data field having a matrix of bit storage locations individually addressable by a corresponding sensor, and the storage surface comprising a user data portion dedicated to storage of user data for manipulation by the processing elements, and a program code portion dedicated to storage of program code for configuring the processing elements to manipulate the user data, said CPU switchable between different functions, with each sensor connected to a corresponding point on the CPU via a direct local electrical connection, and a random access memory mounted on and connected to the CPU.

11 – 12. (Cancelled)